

REMARKS/ARGUMENTS

Status of Application

Claims 30-34 and 38-39 are pending (claims 38-39 are new). Claims 30-32 and 34 have been rejected, and claim 33 objected to (allowable if put in independent form incorporating all limitations of base and any intervening claims).

The Prior Art Rejection

Claim 30 is rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,565,686 to Welch (“Welch”).

Claim 31 is rejected under 35 USC 102(e) as being anticipated by U.S. Patent No. 6,424,756 to Kalman et al. (“Kalman”). Claim 32 is rejected under 35 USC 103(a) as being obvious over Kalman in view of U.S. Patent 5,489,988 to Ackley et al. (“Ackley”).

The Rejection over Welch

Welch discloses a position sensing system that includes a rotating mirror located between two fixed mirrors, and the Examiner takes the position that since the rotating mirror rotates through 360°, it inherently defines, at specific points in its rotation, included angles of 90° between itself and each of the fixed mirrors.

Applicants agree with the Examiner that Welch discloses a mirror arrangement that inherently defines the recited angular relationships at specific points in the rotating mirror’s rotation. However, the problem with Welch is that the laser beam is coming in from the wrong direction for the system to act as a retroreflector when the rotating mirror is at 90° to either of the fixed mirrors.

As mentioned in the substitute specification at paragraph [0057], the fixed mirrors are in a V-shaped or open configuration with respect to the incident and outgoing beams. In this nomenclature, Welch’s mirrors would be in the closed configuration. Thus, when Welch’s rotating mirror 40 has its reflecting surface at 90° to one of the fixed mirrors 60, say the right one in Welch’s FIG. 1, the light does not hit the right fixed mirror, but rather it hits the left fixed

mirror. The reflected light then keeps going generally forward so as to reach one of the detector surfaces. This intended behavior of Welch is the antithesis of a retroreflector.

Applicants recognize that the “dynamically configurable retroreflector” limitation is in the preamble, but the Examiner is respectfully urged to give patentable weight to the this essential preamble limitation. The inquiry of whether language in the preamble is limiting may arise in the context of determining validity or in the context of determining infringement. In *Corning Glass Works v. Sumitomo Electric U.S.A.*, 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989), the Court articulated the inquiry as follows:

No litmus test can be given with respect to when the introductory words of a claim, the preamble, constitute a statement of purpose for a device or are, in themselves, additional structural limitations of a claim. To say that a preamble is a limitation if it gives ‘meaning to the claim’ may merely state the problem rather than lead one to the answer. The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim. *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966.

The *Corning* decision found that the preamble language “optical waveguide” was limiting, and therefore served to distinguish the claim over prior art structures that met the limitations set forth in the body of the claim but were not optical waveguides. In the infringement context, *Applied Materials, Inc. v. Advanced Semiconductor Materials America, Inc.*, 98 F.3d 1563, 40 USPQ2d 1481 (Fed. Cir. 1996), held that the preamble recitation of a “cold purge” was limiting, thereby leading to a holding of non-infringement.

Applicants do not deny that there are cases going both ways in both these contexts, but believe that the present case falls well on the *Corning* side of the fence. Accordingly, Applicants respectfully request reconsideration and withdrawal of the anticipation rejection.

New Claims 38-39

Applicants have added new claims drawn to the retroreflector, including an independent device claim 38 and an independent method claim 39. These claims are believed to distinguish over Welch, even if the preamble limitation is ignored.

The Rejection over Kalman

Claim 31 is rejected as anticipated by Kalman. Applicants respectfully submit that Kalman, while it shows two oblique MEMS arrays with an intervening lens in the context of a switch, does not explicitly or inherently disclose that the MEMS arrays are at approximately 90°. Nor does it disclose that the micromirrors in the second array have respective orientations such that each respective orientation is substantially 90° to the orientation of the given mirror in the first array when the given mirror is oriented to direct light to that micromirror in the second array.

The recited 90° angular constraint on the MEMS micromirrors is required to provide the recited configurable retroreflector, and, as best can be understood, is not required for Kalman. Rather, Kalman states that the output beams should be parallel to each other, but is silent with respect to the relative angles relative to the incoming beams.

Therefore, it is respectfully submitted that Kalman does not anticipate claim 31, and the rejection should be withdrawn.

Amended claim 33

Claim 33, indicated to recite allowable subject matter has been amended to incorporate all the limitations of claim 31 from which it originally depended.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

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PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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